SHARP
SUPPLEMENTAL SERVICE MANUAL

S3908R21HVP//

LIGHT DUTY COMMERCIAL MICROWAVE OVEN

MODEL R-21JV

In the interest of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

WARNING TO SERVICE PERSONNEL: Microwave ovens contain circuitry capable of producing very high voltage and current. Contact with the following parts may result in a severe, possibly fatal, electrical shock. (High Voltage Capacitor, High Voltage Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness etc..)

This is a supplemental Service Manual for Model R-21JV. This model is quite similar to base model R-21HV. Use this supplemental manual together with the Base Model Service Manual (Reference No. is S7814R21HTP//) for complete operation, service information, etc..

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SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.
(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
(e) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

BEFORE SERVICING

Before servicing an operative unit, perform a microwave emission check as per the Microwave Measurement Procedure outlined in this service manual.
If microwave emissions level is in excess of the specified limit, contact SHARP ELECTRONICS CORPORATION immediately @1-800-237-4277.

If the unit operates with the door open, service person should 1) tell the user not to operate the oven and 2) contact SHARP ELECTRONICS CORPORATION and The Food and Drug Administration's Center for Devices and Radiological Health immediately.

Service personnel should inform SHARP ELECTRONICS CORPORATION of any certified unit found with emissions in excess of 4mW/cm^2. The owner of the unit should be instructed not to use the unit until the oven has been brought into compliance.

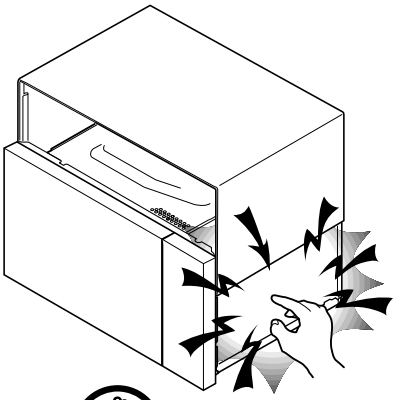
WARNING TO SERVICE PERSONNEL

Microwave ovens contain circuitry capable of producing very high voltage and current, contact with following parts may result in a severe, possibly fatal, electrical shock.

(Example)

High Voltage Capacitor, High Voltage Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness etc..

Read the Service Manual carefully and follow all instructions.



Don't Touch !
Danger High Voltage

Before Servicing

1. Disconnect the power supply cord , and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.

WARNING: RISK OF ELECTRIC SHOCK. DISCHARGE THE HIGH-VOLTAGE CAPACITOR BEFORE SERVICING.

The high-voltage capacitor remains charged about 60 seconds after the oven has been switched off. Wait for 60 seconds and then short-circuit the connection of the high-voltage capacitor (that is the connecting lead of the high-voltage rectifier) against the chassis with the use of an insulated screwdriver.

Whenever troubleshooting is performed the power supply must be disconnected. It may in, some cases, be necessary to connect the power supply after the outer case has been removed, in this event,

1. Disconnect the power supply cord, and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.
4. Disconnect the leads to the primary of the power transformer.
5. Ensure that the leads remain isolated from other components and oven chassis by using insulation tape.
6. After that procedure, reconnect the power supply cord.

When the testing is completed,

1. Disconnect the power supply cord, and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.
4. Reconnect the leads to the primary of the power transformer.
5. Reinstall the outer case (cabinet).
6. Reconnect the power supply cord after the outer case is installed.
7. Run the oven and check all functions.

After repairing

1. Reconnect all leads removed from components during testing.
2. Reinstall the outer case (cabinet).
3. Reconnect the power supply cord after the outer case is installed.
4. Run the oven and check all functions.

Microwave ovens should not be run empty. To test for the presence of microwave energy within a cavity, place a cup of cold water on the oven turntable, close the door and set the power to HIGH and set the microwave timer for two (2) minutes. When the two minutes has elapsed (timer at zero) carefully check that the water is now hot. If the water remains cold carry out **Before Servicing** procedure and re-examine the connections to the component being tested.

When all service work is completed and the oven is fully assembled, the microwave power output should be checked and a microwave leakage test should be carried out.

SERVICE MANUAL

SHARP

LIGHT DUTY
COMMERCIAL
MICROWAVE OVEN

R-21JV

FOREWORD

This Manual has been prepared to provide Sharp Electronics Corp. Service Personnel with Operation and Service Information for the SHARP MICROWAVE OVEN, R-21JV.

The model R-21JV is quite similar to base model R-21HV (Refer No. is S7814R21HTP//).

It is recommended that service personnel carefully study the entire text of this manual and the base model's manual so that they will be qualified to render satisfactory customer service.

Check the interlock switches and the door seal carefully. Special attention should be given to avoid electrical shock and microwave radiation hazard.

WARNING

Never operate the oven until the following points are ensured.
(A) The door is tightly closed.
(B) The door brackets and hinges are not defective.
(C) The door packing is not damaged.
(D) The door is not deformed or warped.
(E) There is no other visible damage with the oven.

Servicing and repair work must be carried out only by trained service personnel.

DANGER

Certain initial parts are intentionally not grounded and present a risk of electrical shock only during servicing.
Service personnel - Do not contact the following parts while the appliance is energized;
High Voltage Capacitor, Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness;
If provided, Vent Hood, Fan assembly, Cooling Fan Motor.

All the parts marked "*" on parts list are used at voltages more than 250V.

Removal of the outer wrap gives access to voltage above 250V.

All the parts marked "Δ" on parts list may cause undue microwave exposure, by themselves, or when they are damaged, loosened or removed.

SHARP ELECTRONICS CORPORATION

SHARP PLAZA, MAHWAH,
NEW JERSEY 07430-2135

SPECIFICATION

ITEM	DESCRIPTION
Power Requirements	120 Volts 14 Amperes 60 Hertz / Single phase, 3 wire grounded
Power Output	1000 watts (IEC 705 Test Procedure) Operating frequency of 2450MHz
Case Dimensions	Width 20-1/2" (520mm) Height 12-1/8" (309mm) Depth 16" (406mm)
Cooking Cavity Dimensions (1.0 Cubic Feet)	Width 13-7/8" (353mm) Height 8-1/8" (207mm) Depth 14-5/8" (370mm)
Control Complement	Touch Control System Timer (0 - 99 min. 99 seconds) Microwave Power for Variable Cooking Repetition Rate; P-HI ..... Full power throughout the cooking time P-90 ..... approx. 90% of Full Power P-80 ..... approx. 80% of Full Power P-70 ..... approx. 70% of Full Power P-60 ..... approx. 60% of Full Power P-50 ..... approx. 50% of Full Power P-40 ..... approx. 40% of Full Power P-30 ..... approx. 30% of Full Power P-20 ..... approx. 20% of Full Power P-10 ..... approx. 10% of Full Power P-0 ..... No power throughout the cooking time DOUBLE QUANTITY pad EXPRESS DEFROST pad Ten number pads SELECTATIME pad STOP/CLEAR pad SELECATAPOWER pad [R-21HT only] START pad, SET pad CHECK pad, SIGNAL pad
Oven Cavity Light	Yes
Safety Standard	UL Listed FCC Authorized DHHS Rules, CFR, Title 21, Chapter 1, Subchapter J, NSF certified

SCHEMATIC
NOTE: CONDITION OF OVEN
1. DOOR CLOSED.
2. [.] APPEARED.

NOTE: ★ Indicates components with potential above 250 V.

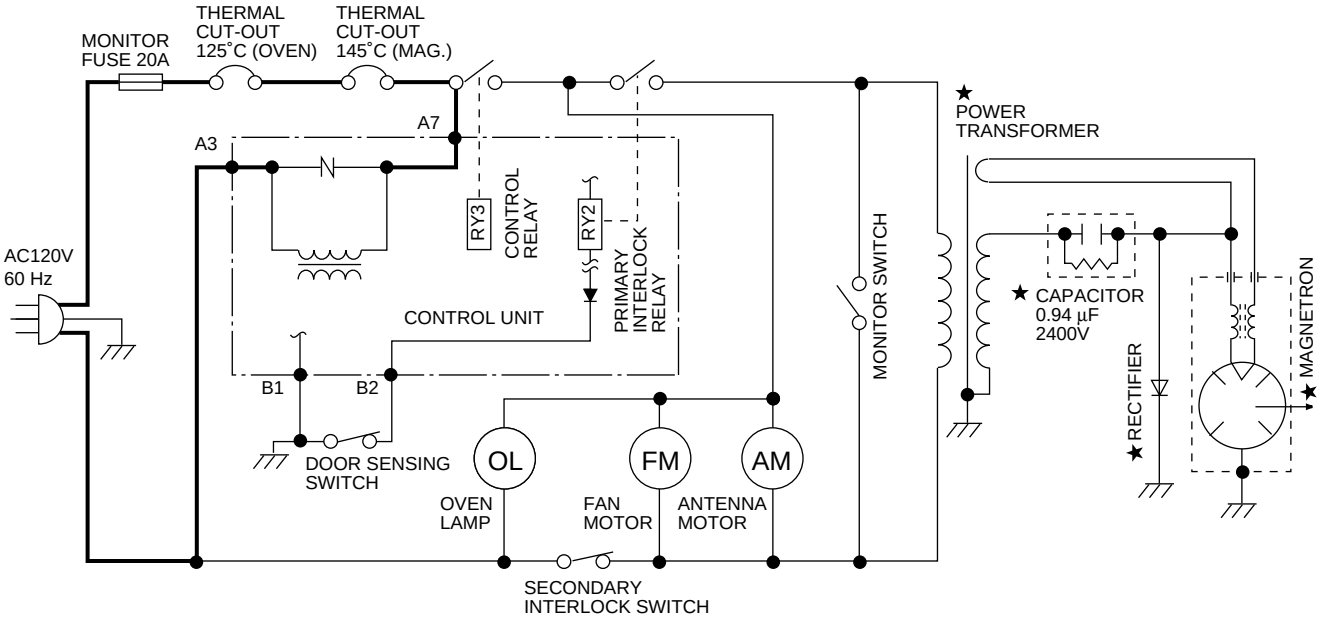


Figure O-1 Oven Schematic-OFF Condition

PARTS LIST

Note: The parts marked "Δ" may cause undue microwave exposure.
The parts marked "*" are used in voltage more than 250V.

	REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
			ELECTRIC PARTS		
	1- 1	FFS-BA015WRK0	Monitor fuse and monitor switch assembly	1	AK
	1- 2	QSW-MA051WRE0	Door sensing switch	1	AF
	1- 3	QSW-MA135WRE0	Secondary interlock switch	1	AH
	1- 4	FACCDA078WRE0	Power supply cord	1	AV
*	1- 5	FH-DZA084WRK0	High voltage rectifier assembly	1	AV
*	1- 6	RC-QZA242WRE0	High voltage capacitor	1	AV
*	1- 7	RMOTEA376WRE0	Fan motor	1	AU
	1- 8	QFSHDA009WRE0	Fuse holder	1	AG
	1- 9	QSOCLA021WRE0	Oven lamp socket	1	AG
	1-10	RLMPTA072WRE0	Oven lamp	1	AY
	1-11	RMOTDA233WRE0	Antenna motor	1	AQ
	1-12	RTHM-A080WRE0	Thermal cut-out 145 deg. (MAG)	1	AP
	1-13	RTHM-A096WRE0	Thermal cut-out 125 deg. (OVEN)	1	AK
*	1-14	RTRN-A570WRE0	Power transformer	1	BM
Δ*	1-15	RV-MZA197WRE0	Magnetron	1	BN
			CABINET PARTS		
	2- 1	GCABUA674WRP0	Outer case cabinet	1	AX
	2- 2	GDAI-A311WRW0	Base plate	1	AS
	2- 3	GCOVHA406WRW0	Base plate cover	1	AQ
	2- 4	GLEGPA074WRE0	Foot	2	AC
	2- 5	GLEGPA076WRF0	Leg	1	AF
			CONTROL PANEL PARTS		
	3- 1	CPWBFA805WRK0	Control unit	1	BK
	3- 1A	QCNCMA234DRE0	3-pin connector (A)	1	AC
	3- 1B	QCNCMA275DRE0	2-pin connector (B)	1	AB
	3- 1C	QCNCWA057DRE0	12-pin connector (G)	1	AF
	C1	VCEAB51EW228M	Capacitor 2200 uF 25V	1	AE
	C2	RC-KZA087DRE0	Capacitor 0.1 uF 50V	1	AA
	C3	VCEAB31AW476M	Capacitor 47 uF 10V	1	AA
	C4	RC-KZA087DRE0	Capacitor 0.1 uF 50V	1	AA
	C5	VCEAB31AW476M	Capacitor 47 uF 10V	1	AA
	C6	RC-KZA087DRE0	Capacitor 0.1 uF 50V	1	AA
	C7	VCKYD11CY103N	Capacitor 0.01 uF 16V	1	AA
	C8-9	RC-KZA087DRE0	Capacitor 0.1 uF 50V	2	AA
	C20	RC-KZA087DRE0	Capacitor 0.1 uF 50V	1	AA
	C21	VCEAB31EW106M	Capacitor 10 uF 25V	1	AA
	C30	VCEAB31AW476M	Capacitor 47 uF 10V	1	AA
	C31	VCKYD11CY103N	Capacitor 0.01 uF 16V	1	AA
	C70	VCKYD11CY103N	Capacitor 0.01 uF 16V	1	AA
	CF1	RCRS-A012DRE0	Ceramic resonator CST4.00MGW	1	AD
	D1-4	VHD11ES1//-1	Diode (11ES1)	4	AB
	D20-21	VHD1SS270A/-1	Diode (1SS270A)	2	AA
	D23	VHD11ES1//-1	Diode (11ES1)	1	AB
	D70	VHD1SS270A/-1	Diode (1SS270A)	1	AA
	IC1	RH-IZA897DRE0	LSI	1	AV
	IC2	RH-IZA521DRE0	IC (X24C02P)	1	AL
	IC3	RIC--A025BDE0	IC (KID65004AP)	1	AE
	LED1	VHPSL3966T/1B	Light emitting diode	1	AS
	Q1	RIC--A022BDE0	IC (KIA7805P1)	1	AE
	Q2	VSDTA123ES/-3	Transistor (DTA123ES)	1	AA
	Q3	VSDTC143ES/-3	Transistor (DTC143ES)	1	AB
	Q20	VSDTB143ES/-3	Transistor (DTB143ES)	1	AC
	Q21	VSDTC143ES/-3	Transistor (DTC143ES)	1	AB
	Q22	VSDTD143ES/-3	Transistor (DTD143ES)	2	AC
	R3-5	VRD-B12EF472J	Resistor 4.7k ohm 1/4W	3	AA
	R30	VRD-B12EF101J	Resistor 100 ohm 1/4W	1	AA
	R31	VRD-B12EF153J	Resistor 15k ohm 1/4W	1	AA
	R32	VRD-B12EF272J	Resistor 2.7k ohm 1/4W	1	AA
	R33	VRD-B12EF472J	Resistor 4.7k ohm 1/4W	1	AA
	R40	VRD-B12EF272J	Resistor 2.7k ohm 1/4W	1	AA
	R50-58	VRD-B12EF101J	Resistor 100 ohm 1/4W	9	AA
	R70-71	VRD-B12EF472J	Resistor 4.7 ohm 1/4W	2	AA
	R80-88	VRD-B12EF472J	Resistor 4.7 ohm 1/4W	9	AA
	RY2	RRLY-A101DRE0	Relay (VRB12)	1	AL
	RY3	RRLY-A094DRE0	Relay (OMIF-S-112LM)	1	AN

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
SP1	RALM-A014DRE0	Buzzer (PKM22EPT)	1	AG
T1	RTRNPA094DRE0	Touch control transformer	1	AQ
VRS1	RH-VZA032DRE0	Varistor (10G471K)	1	AE
ZD2	VHEHZ4A2///-1	Zener diode (HZ4A2)	1	AA
3- 2	FPNLCB435WRK0	Control panel frame with key unit	1	BC
3- 2-1	FUNTKA881WRE0	Key unit	1	AW
3- 2-2	GCOVAA264WRP0	C/P case	1	BA
3- 2-3	GMADIA109WRF0	Display window	1	AE
3- 3	TCAUAA076WRR0	User caution label	1	AB
3- 4	XEPSD30P08XS0	Screw; 3mm x 8mm	6	AA

OVEN PARTS

	4- 1	FGLSPA062WRE0	Ceramic shelf	1	BL
Δ	4- 2	**********	Oven cavity (Not a replaceable part)	1	—
	4- 3	MLEVPA227WRF0	Latch switch lever A	1	AF
	4- 4	MLEVPA228WRF0	Latch switch lever B	1	AF
	4- 5	MLEVPA229WRF0	Latch switch lever C	1	AF
	4- 6	MSPRCA108WRE0	Latch lever spring	3	AC
	4- 7	MSPRTA191WRE0	Switch lever B spring	1	AC
Δ	4- 8	PHOK-A107WRF0	Latch hook	1	AL
	4- 9	FDUC-A341WRY0	Steam duct sub assembly	1	BL
	4-10	PSKR-A351WRP0	Steam guide	1	AY
	4-11	LBNDKA136WRP0	HV capacitor holder	1	AQ
	4-12	NFANJA029WRE0	Fan blade	1	AK
	4-13	PDUC-A697WRF0	Fan duct	1	AM
	4-14	FPLT-A007WRY0	Stirrer antenna assembly	1	BB
	4-15	PCUSGA504WRP0	Insertion cushion	2	AB
	4-16	PSKR-A348WRW0	Insertion plate A	1	AN
	4-17	GCOVHA404WRE0	VCP cap	2	AG
	4-18	LANGFA187WRP0	Chassis support	1	AL
	4-19	NSFTPA033WRF0	Antenna motor shaft	1	AK
	4-20	PCLICA032WRE0	Hand clip 4	5	AD
	4-21	PCLICA033WRE0	Hand clip 5	4	AD
	4-22	PCOVPA344WRF0	Side splash cover	1	AF
	4-23	PCOVPA345WRF0	Back splash cover	1	AF
	4-24	PCUSGA249WRP0	Cushion	3	AA
	4-25	PCUSUA511WRP0	Cushion	2	AC
	4-26	PCUSUA194WRP0	Cushion	2	AC
	4-27	PCUSUA514WRP0	Cushion	1	AB
	4-28	PDUC-A722WRF0	Air intake duct	1	AF
	4-29	PFILWA060WRP0	Lamp filter	1	AD
	4-30	PSHEPA644WRE0	Insertion sheet	1	AD
	4-31	PSKR-A347WRW0	Insertion plate B	1	AL
	4-32	PSKR-A349WRP0	Steam duct barrier	1	AF
	4-33	PSKR-A359WRW0	Air guide	1	AM
	4-34	PSPA-A112WRE0	Mica washer	1	AC
	4-35	PCUSGA378WRP0	Cushion	1	AL
	4-36	PCUSUA507WRP0	Cushion	1	AC
	4-37	PCUSUA517WRP0	Cushion	1	AE
	4-38	PCUSUA518WRP0	Cushion	1	AC
	4-39	PSHEPA673WRE0	S/ film	1	AD
	4-40	PSHEPA674WRE0	Cover	1	AL
	4-41	PPACGA171WRE0	Cushion	1	AK

DOOR PARTS

	5- 1	FDORFA322WRT0	Door panel assembly	1	AZ
Δ	5- 2	PSHEPA649WRE0	Sealer film	1	AB
	5- 3	FANGKA206WRY0	Latch angle assembly	1	AW
Δ	5- 4	FCOV-A002WRK0	Door case assembly	1	BQ
	5-4-1	LSTPPA180WRF0	Glass stopper R	1	AK
	5-4-2	LSTPPA182WRF0	Glass stopper U	1	AN
	5-4-3	PGLSPA516WRE0	Front door glass	1	AU
	5- 5	GWAKPA580WRM0	Door handle	1	AQ
	5- 6	JHNDMA040WRW0	Handle lever	1	AN
	5- 7	LANGKA874WRW0	Latch lever	1	AR
Δ	5- 8	LSTPPA181WRF0	Latch head	2	AL
Δ	5- 9	MSPRTA190WRE0	Latch spring	1	AD
	5-10	PCUSUA506WRP0	Cushion	1	AC
	5-11	XCPSD40P06000	Screw : 4mm x 6mm	1	AA
	5-12	PSHEPA686WRE0	Panel sheet	2	AK
	5-13	PSHEPA687WRE0	Panel sheet	1	AK
	5-14	PCUSGA514WRP0	Cushion	1	AK
	5-15	PCUSUA505WRP0	Cushion	1	AC

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
5-16	XCPSD40P08000	Screw : 4mm x 8mm	10	AA
5-17	GCOVHA407WRF0	Choke cover	1	AM
5-18	HBDGCA089WRE0	Door badge	1	AG
5-19	XEPSD40P25K00	Screw : 4mm x 25mm	2	AB
5-20	PCUSUA508WRP0	Cushion	1	AC

MISCELLANEOUS

6- 1	TINSEA802WRR0	Instruction book	1	AF
6- 2	FW-VZB683WRE0	Main wire harness	1	AZ
6- 3	TCAUAA166WRR0	DHHS caution label	1	AB
6- 4	TCAUAA241WRR0	Monitor caution	1	AE
6- 5	TCAUAA243WRR0	Earth caution	1	AC
6- 6	TCAUAA245WRR0	Cover caution	1	AC
6- 7	TLABMA572WRR0	Menu sticker	1	AE
6- 8	TMAPCA758WRR0	Schematic diagram	1	AE
6- 9	LHLDWA013WRE0	Purse lock LL	1	AC
6-10	TCAUAA249WRR0	Caution label	1	AE

SCREWS,NUTS AND WASHERS

7- 1	XHPSD40P08K00	Screw : 4mm x 8mm	7	AA
7- 2	XEPSD40P25000	Screw : 4mm x 25mm	2	AA
7- 3	LX-CZA038WRE0	Special screw	4	AA
7- 4	LX-CZA052WRE0	Special screw	2	AA
7- 5	LX-EZA042WRE0	Special screw	2	AB
7- 6	XBPWW40P04000	Screw : 4mm x 4mm	1	AB
7- 7	XFPSD40P08000	Screw : 4mm x 8mm	4	AA
7- 8	XFTSD40P08000	Screw : 4mm x 8mm	2	AA
7- 9	XHPSD30P08000	Screw : 3mm x 8mm	1	AA
7-10	XHTSD40P08RV0	Screw : 4mm x 8mm	1	AA
7-11	XOTSD40P12000	Screw : 4mm x 12mm	12	AA
7-12	XOTSF40P08000	Screw : 4mm x 8mm	1	AA
7-13	XOTWW40P10000	Screw : 4mm x 10mm	4	AA

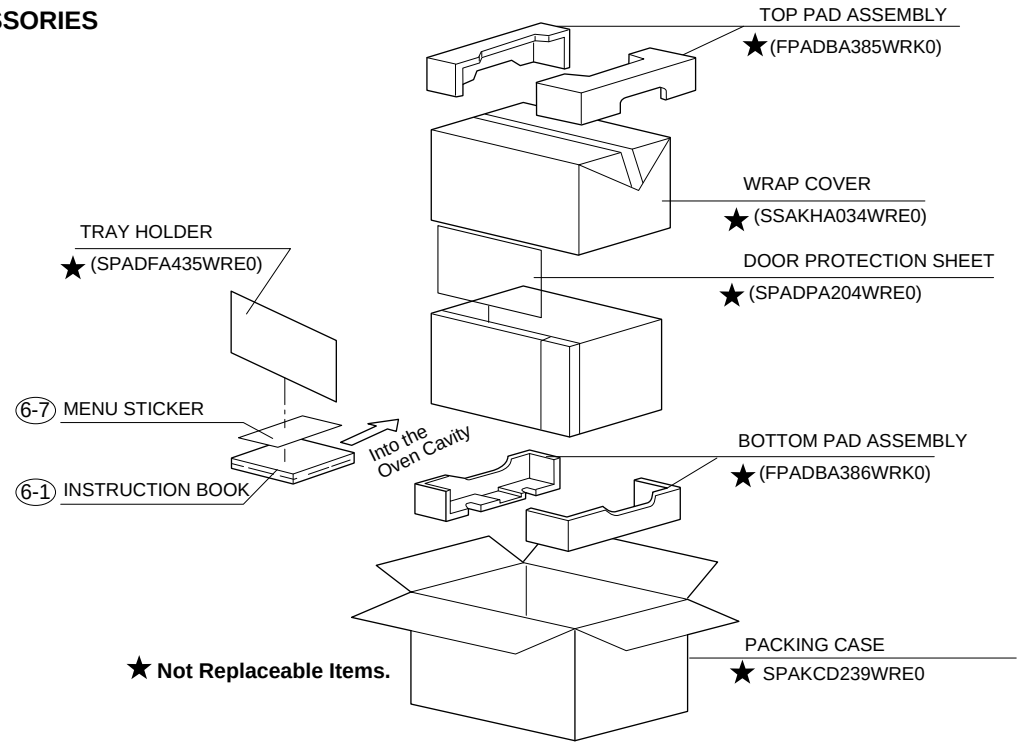
HOW TO ORDER REPLACEMENT PARTS

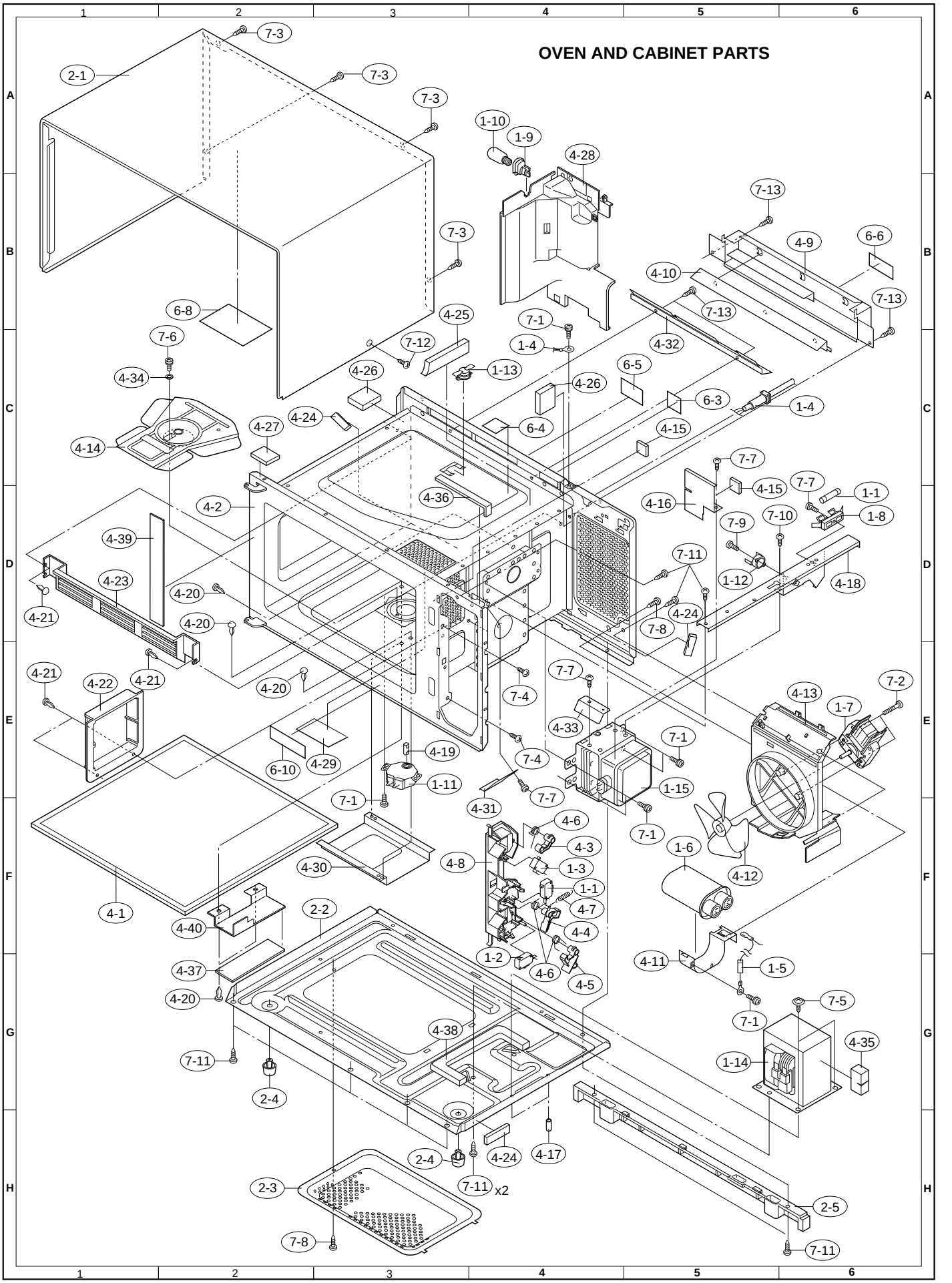
To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO. 3. PART NO. 4. DESCRIPTION

Order Parts from the authorized SHARP parts Distributor for your area.
Defective parts requiring return should be returned as indicated in the Service Policy.

PACKING AND ACCESSORIES




OVEN AND CABINET PARTS
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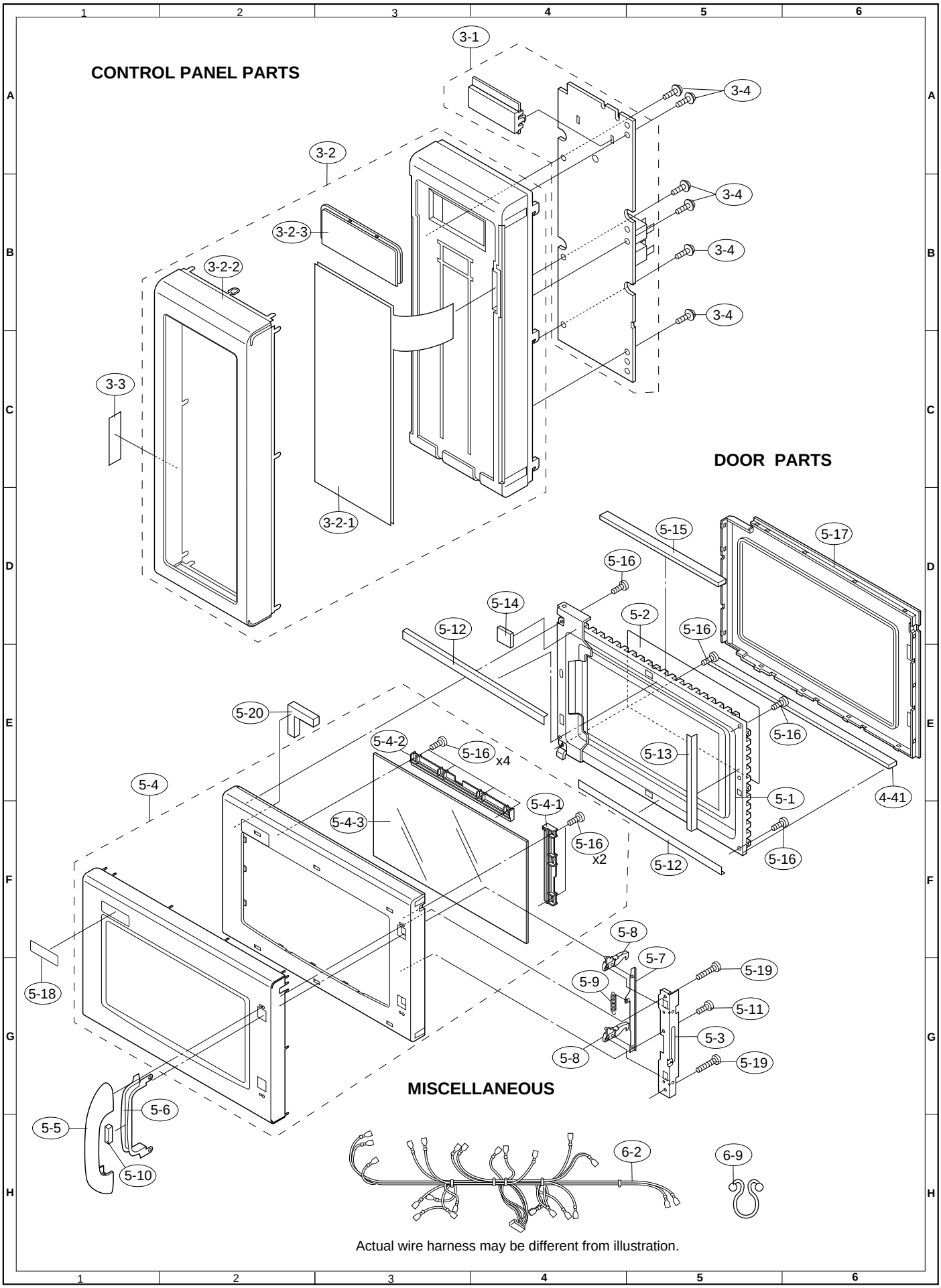

Actual wire harness may be different from illustration.

SHARP

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